DEPARTMENT OF THE AIR FORCE
DEPARTMENT OF BIOLOGY
USAF ACADEMY, COLORADO 80840

Dr. Joshua Lederberg
President Rockefeller University
New York, NY 10021

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Dear Dr. Lederberg,

At long last, I am answering your memo from last October. It was a genuine pleasure for me to share the podium with you on the subject of Genetic Engineering. I will be generating another report for the DOD which I also plan to submit (unclassified version) as a professional military education requirement. I'll send you a copy.

Regarding the Fudan University Report--I was informed last month that it will be translated. That will take quite a while, I am sure. I have found out that the preface is concerned, in part, with historical references to the Gang of Four and Cultural Revolution difficulties. The reference on p.19 to genetic engineering concerns the "Shanghai Agricultural Supplement" by Chen Kao Kang. The list on p.21 and 22 includes titles concerning experiments with plasmids, phage work, and cell fusion. There are several scientific society meetings mentioned and review articles on topics such as genetic engineering and herbal medicine. When I have a complete translation, I will provide you a copy.

I asked the physician who heads the OB-GYN Clinic here at the USAF Academy to read the Fetal Sex Prediction article. The prediction is based on the presence of Barr Bodies (diminutive X chromosomes) in cells that will ultimately become part of the placental tissue. In the U.S. clinical setting, karyotyping would be preferable because it is more accurate. In addition, the use of ultra sound imaging during the aspiration of cells would be a safer approach than doing it by "feel." Being based on Barr Bodies, it is not a "technical advance." It is more like a "procedural advance" that does not require a lot of training or equipment--and one which certainly increases the degree of control over sex choice (and indirectly--population growth). Amniocentesis is another technique which will yield the same information plus indications of "genetic" desease such as Down's Syndrome. Most U.S. practitioners will not do the procedure just to determine sex, since it is an invasive technique with some risk of infection, hemorrhage, and damage to the fetus. The technique described in the article carries much the same risk. One major advantage of the described approach is that no cell culturing is needed. In amniocentesis, time is needed for culturing

before the karyotyping is done. If our society was very insistent about doing sex prediction without the delay and cost of amniocentesis, this procedure or some version of it would probably have already come into use.

Thank you again for your interest and comments last fall when we met.

Sincerely,

JOHN H. BIRKNER, Lt Col, USAF
Associate Professor and Deputy Head
Department of Biology